Green Building Practice Summary

Sector: Residential

Category/component: Operations & Maintenance/Owner Education

Proposed GB practice

Description
Builder will provide building owner with an operations and maintenance manual, including information on other “green” opportunities.

Applicability

New Construction: Applies

Existing Buildings/Additions: Applies to new systems, equipment and major appliances installed in the addition

Existing Buildings/Alterations: Applies to new systems, equipment and major appliances installed as part of the job scope

Intent
Educate owners about their home and other “green” choices they can make.

Benefits and Costs

Triple Bottom Line Benefits

People: Improve owner/occupant satisfaction by making it easier for them to operate the building as intended and avoid problems caused by incorrect operation or maintenance

Economic:
- Increase likelihood that building’s green attributes will provide operations and maintenance benefits over the lifetime of the building. If utility costs are reduced 0.5% to 1% per year, this represents about $10 to $20 in annual savings. Maintenance savings would be additional.
- Reduce builder callbacks

Environment: Educated owners are more likely to be aware of protecting the natural environment in their care.

Costs Passed to Owner
It is challenging to estimate cost because the specifics of the proposal are not yet defined. City-supported development work should provide a big head start for builder: an easy-to-use template plus boilerplate where possible. For this requirement to be feasible, the cost target must be quite low.
Builders are already providing some of this information to buyers. Most of the work associated with this proposal can be performed by staff with lower hourly costs.

An estimated range of costs, until the requirement is better defined, is $150 to $300.

**Lost Opportunity**
This proposal represents a front-end chance to set the owner on the course of proper operation of the building, including preventive maintenance practices, rather than the owner dealing on the back end with preventable problems and maintenance costs.

**Implementation**

**Availability of products and/or services**
There are a number of models upon which owner’s manuals that meet the proposed requirement could be patterned (see “Context” below).

**Practicality**
No obstacles foreseen

**Certification Issues**
N/A

**Enforcement Procedures**

**Permit application/plan review:** Applicant receives checklist and/or template for items needed in owner’s manual.

**Field inspection:** Verify at final inspection that manual is on the premises and meets the code requirement.

**Certificate of Occupancy:** N/A

**Support Materials Needs**
The minimum content and potentially the allowable formats of owner’s manuals that meet the proposed requirement must be developed. This will likely be accomplished by staff working with a small group of contractors. This effort could also develop boilerplate to streamline the builder’s process of meeting this proposed requirement.

**Training Needs – Industry**
No specific training on this requirement is needed; it will be covered in mandatory training on building code updates.

**Training Needs – Staff**
None.
Background

Current practice
Some builders provide materials meeting some aspects and the intent of this requirement. Virtually all builders provide the owner with operation manuals for major appliances installed in the building.

Context
The impact of the building on the natural environment continues well past the completion of construction. Proper operation and maintenance of the building and the equipment and systems within it are essential to maintain efficiency and long-term durability. This translates into resource and economic savings over the life of the structure. Unfortunately, often O+M procedures are not well-implemented and unnecessary problems result. Accessible information and education of the owner can help increase the chances of a positive outcome.

There are many other choices that the owners/occupants can make to further “green” their lifestyle.

The recently adopted Fort Collins building code includes a requirement for a permanent certificate attached to electrical panel, listing R-values, window U-factors and SHGC, and efficiencies of heating, cooling and water heating equipment. This provides some useful information for the owner and future occupants. The proposed requirement takes this several steps further. Minimum contents for manuals meeting the proposed requirement have not been established. They might include, for example:
- product manuals and data for major equipment, fixtures and appliances
- photo record of framing with utilities installed prior to insulation
- information on energy- and water-conserving operation
- tips on maintaining healthy indoor air
- location of main shutoffs for water, gas, electricity
- information for maintaining gutters and downspouts
- recommended preventive maintenance schedule
- information on native landscape materials
- a directory of local recycling options

It is anticipated that staff will work with a group of interested contractors to develop the specific criteria. The City may develop a template that makes it easier for builders to comply with the proposed requirement. Ideas can be drawn from similar requirements in voluntary green building rating systems such as the US Green Building Council’s LEED for Homes program and the National Green Building Standard.

Builders will be encouraged, but not required, to conduct in-depth walkthroughs with buyers to reinforce the information contained in the owner’s manual.

Related Green Building Practices
None

Known objections
- Time required to assemble the manual
- No assurance that the owner will take advantage of the manual
- No assurance that the manual will stay with the building as occupancy changes